

Appl. No. 09/775,278  
Response dated April 26, 2006  
Reply to Office Action of August 30, 2005

### **REMARKS**

This is a response to the Office Action mailed March 29, 2006. Claims 1-4 and 7-13 are pending. Claims 11-13 are allowed. Claims 1-4 and 7-10 are rejected. New claim 14 has been added.

### **Summary of Office Action and Response**

Claims 1-4 and 7-10 were rejected under 35 U.S.C. 102(b) as being anticipated by Staub (4,945,562). This rejection is respectfully traversed.

Claims 1-4 and 7-10 were rejected under 35 U.S.C. 102(b) as being anticipated by Whitaker (4,622,687). This rejection is respectfully traversed.

### **Detailed Response**

#### **Rejection of Claims 1-4 and 7-10 under 35 U.S.C. 102(b) as being anticipated by both Staub and Whitaker**

It is respectfully suggested that neither Staub nor Whitaker teach or disclose the claimed feed means for supplying at least one reactant in a fluid phase to the external reaction surface. The specification states that "it is envisaged that most reactants and products will be in the liquid phase, the apparatus can be used with any suitable fluid phase reactants and products, including combinations of liquid, solid and gaseous reactants and products. For example, solid phase substances in substantially free-flowing particulate form can have macroscopic flow properties." (Page 2, lines 32-36). Figure 2 shows an example of a feed means 4 for supplying at least one reactant in a fluid phase to external reaction surface (first surface 19 of hollow rotatable disc 18).

Both cited references (Staub and Whitaker) merely show rotating x-ray anode tubes having no feed means for supplying at least one reactant in a fluid phase to an external reaction surface. Instead, their external surfaces (anode surfaces) are bombarded by a beam of electrons (which is not a fluid phase reactant). As explained by Staub "[b]y rotating the anode, a fresh area of the target surface can be continuously presented to the beam of electrons emitted by the cathode and the heat generated during X-ray production can be advantageously spread over a larger area." (Staub: column 1, lines 19-24). Similarly, Whitaker explains that "[l]iquid cooled rotating anode x-ray tubes are, in general well known. In such x-ray tubes, a hollow anode is

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disposed so that a rotating portion thereof is irradiated by an energy beam (e.g. electron beam). The irradiated portion of the anode is generally referred to as the electron beam track. Substantially all of the heat generated by irradiation by the energy beam is transmitted to a heat exchange surface, typically the interior wall of the hollow anode underlying the electron beam track and adjacent areas.” (Whitaker: column 1, lines 45-54).

Based on the above it is respectfully requested that the rejection of claim 1 be withdrawn. Because claims 2-4 and 7, 8 depend directly or indirectly on independent claim 1, it is respectfully submitted the rejection of these claims should also be withdrawn.

Regarding claim 9, neither Staub nor Whitaker teach or disclose a feed means for supplying at least one reactant to the first surface and collector means for collecting product from the first surface; nor do these references teach or disclose the claimed “circumferential baffle serving to keep separate reactant and heat transfer fluid which are thrown respectively from the first and second surfaces during operation of the reactor.” The specification states that “[a]ny suitable collection means may be provided for collection of the product as it leaves the rotating surface at its periphery. For example, there may be provided a receptacle in the form of a bowl or trough at least partially surrounding the rotating element or other fixed part of the apparatus. The collection means may additionally comprise a deflector positioned around the periphery of the rotating surface to deflect product into the collection means.” (Page 7, line 37 through page 8, line 6). See also page 8, lines 8-36. The specification also states that a “circumferential baffle or plate is then fitted about the support member so as to project into the groove or indent around the whole circumference of the support member while still allowing the support member to rotate freely. The baffle or plate thereby allows product thrown from the first surface to be collected independently of heat transfer fluid thrown from the second surface.” (Page 4, line 36 through page 5, line 4).

Regarding claim 10, neither Staub nor Whitaker teach or disclose the separate feed means for supplying at least one reactant to the first surface of the support element, collector means for collecting product from the first surface, and means for applying a heat transfer fluid to the second surface. Neither cited reference attempts to collect anything that could be a reactant.

Based on the above it is respectfully suggested that the rejection of claims 9 and 10

Appl. No. 09/775,278  
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should be withdrawn.

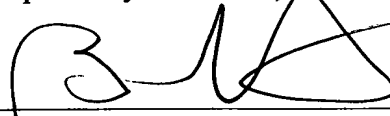
Applicant has added new claim 14, which requires that "the external reaction surface has a center and the feed means supplies the at least one reactant in a fluid phase to the center." Figure 2 shows an example of a feed means 4 for supplying at least one reactant in a fluid phase to the central portion of an external reaction surface (first surface 19 of hollow rotatable disc 18). Supplying reactant to the center of an external reaction surface - - "Reactant (15) is supplied to a trough (13) in a central portion of the first surface (19) by way of feed means (4), and upon rotation of the disc (18) spills onto the first surface (19) in the form of a film (17)." (Page 15, lines 19-21). Applicant respectfully suggests that the cited references do not teach or disclose this claimed feature and claim 14 should be allowed.

Applicant respectfully submits that the application is in condition for allowance. A Notice of Allowance is hereby respectfully requested.

Should the Examiner feel that a telephone conference would advance the prosecution of this application, he is encouraged to contact the undersigned at the telephone number listed below.

Applicant respectfully petitions the Commissioner for any extension of time necessary to render this paper timely. Please charge any fees due or credit any overpayment to Deposit Account No. 50-0694.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 26 day of April, 2006.

A handwritten signature in black ink, appearing to be "BA" followed by a stylized flourish.

Brett A. North

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